SECRET

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Monthly Report

Project File

25X1

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(PAR 243)

30 Jun 66

SUBJECT: Briefing Print Enlarger (Prototype)

TASK/PROBLEM

1. Design, fabricate and test a prototype briefing print enlarger (BPE) based upon tests and observations of the breadboard equipment developed on the combined PAR 202/224.

DISCUSSION

2. Authorization to proceed on changes to this PAR (PAR 243A) was given in customer message 7390, dated 6 June 66.

3. Mechanical design studies, and the production of drawings for parts fabrication (detail drawings) have continued during this month.

4. Approximately 95% of the detail drawings have been made for the following:

a. Negative transport.

b. Print stock platen, carriage, and drive, including the focus table drum.

c. Objective lens interchange mechanism.

d. Objective lens focus mechanism and revised focus indicator.

5. Assembly drawings are yet to be made for these portions of the enlarger. However, the design and drafting effort is about 80% complete.

6. The design study portion of the lamphouse design effort is complete and about 75% of the detail drawings are made. Overall design and drafting effort is about 67% complete on this unit. Additional manpower has been assigned to aid in completing this design.

7. A breadboard model to test the planned arrangement of the easel photometer was completed and brief qualitative tests of the available response were made on the breadboard enlarger. The lowest response level was observed with the red filter in the enlarger lamphouse. There are about 2.5 decades of working range available with the red filter. It also

appears that the uniformity of photometer response with the direction of the light entering the probe aperture is excellent for the BPE conditions. More refined tests will be made on the breadboard.

8. Tests of drying techniques (immersion fluid on the film) and of fume venting systems have been made. It appears that both tasks can be accomplished with a single blower to exhaust air and fumes from the bottom of an enclosure around the gate area with the requirement that about 25 seconds be allowed for withdrawal of the negative upward from the gate. Consideration is being given to placing radiant heating elements along the upper edges of the gate enclosure to warm the fluid slightly, as the film is withdrawn, to speed the evaporation.

9. We have established the suitability of "Decitrak" analog-to-digital-converter (ADC) equipment for the convenient display of the in-frame coordinates of the negative. The engineering layout of the across-frame (Y-coordinate) mechanism is nearly complete. The X-coordinate mechanism and display panel are to be done.

PLANNED ACTIVITY

10. Continue design studies and production of detail drawings.

11. Complete tests of the breadboard model easel photometer and start design of the prototype unit.

12. Begin fabrication releases for parts in the prototype model.